

# SEQUENCE LISTING

<110> Huisman, Gjalt W.  
Skrally, Frank A.  
Martin, David P.  
Peoples, Oliver P.

<120> Biological Systems for the Manufacture of  
Polyhydroxyalkanoate Polymers Containing 4-Hydroxyacids

<130> MBX 017 PTO

<140> 09/156,809

<141> 1998-09-18

<150> 60/059,373

<151> 1997-09-18

<160> 18

<170> PatentIn Ver. 2.1

<210> 1

<211> 429

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: orfZ gene from  
C. kluyveri

<400> 1

Met Glu Trp Glu Glu Ile Tyr Lys Glu Lys Leu Val Thr Ala Glu Lys  
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Ala Val Ser Lys Ile Glu Asn His Ser Arg Val Val Phe Ala His Ala  
20 25 30

Val Gly Glu Pro Val Asp Leu Val Asn Ala Leu Val Lys Asn Lys Asp  
35 40 45

Asn Tyr Ile Gly Leu Glu Ile Val His Met Val Ala Met Gly Lys Gly  
50 55 60

Val Tyr Thr Lys Glu Gly Met Gln Arg His Phe Arg His Asn Ala Leu  
65 70 75 80

Phe Val Gly Gly Ser Thr Arg Asp Ala Val Asn Ser Gly Arg Ala Val

85	90	95
Tyr Thr Pro Cys Phe Phe Tyr Glu Val Pro Ser Leu Phe Lys Glu Lys		
100	105	110
Arg Leu Pro Val Asp Val Ala Leu Ile Gln Val Ser Glu Pro Asp Lys		
115	120	125
Tyr Gly Tyr Cys Ser Phe Gly Val Ser Asn Asp Tyr Thr Lys Pro Ala		
130	135	140
Ala Glu Ser Ala Lys Leu Val Ile Ala Glu Val Asn Lys Asn Met Pro		
145	150	155
Arg Thr Leu Gly Asp Ser Phe Ile His Val Ser Asp Ile Asp Tyr Ile		
165	170	175
Val Glu Ala Ser His Pro Leu Leu Glu Leu Gln Pro Pro Lys Leu Gly		
180	185	190
Asp Val Glu Lys Ala Ile Gly Glu Asn Cys Ala Ser Leu Ile Glu Asp		
195	200	205
Gly Ala Thr Leu Gln Leu Gly Ile Gly Ala Ile Pro Asp Ala Val Leu		
210	215	220
Leu Phe Leu Lys Asn Lys Lys Asn Leu Gly Ile His Ser Glu Met Ile		
225	230	235
Ser Asp Gly Val Met Glu Leu Val Lys Ala Gly Val Ile Asn Asn Lys		
245	250	255
Lys Lys Thr Leu His Pro Gly Lys Ile Val Val Thr Phe Leu Met Gly		
260	265	270
Thr Lys Lys Leu Tyr Asp Phe Val Asn Asn Asn Pro Met Val Glu Thr		
275	280	285
Tyr Ser Val Asp Tyr Val Asn Asn Pro Leu Val Ile Met Lys Asn Asp		
290	295	300
Asn Met Val Ser Ile Asn Ser Cys Val Gln Val Asp Leu Met Gly Gln		
305	310	315
Val Cys Ser Glu Ser Il Gly Leu Lys Gln Ile Ser Gly Val Gly Gly		
325	330	335
Gln Val Asp Phe Ile Arg Gly Ala Asn Leu Ser Lys Gly Gly Lys Ala		

340	345	350
Ile Ile Ala Ile Pro Ser Thr Ala Gly Lys Gly Lys Val Ser Arg Ile		
355	360	365
Thr Pro Leu Leu Asp Thr Gly Ala Ala Val Thr Thr Ser Arg Asn Glu		
370	375	380
Val Asp Tyr Val Val Thr Glu Tyr Gly Val Ala His Leu Lys Gly Lys		
385	390	395 400
Thr Leu Arg Asn Arg Ala Arg Ala Leu Ile Asn Ile Ala His Pro Lys		
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Phe Arg Glu Ser Leu Met Asn Glu Phe Lys Lys Arg Phe		
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<210> 2  
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 <212> PRT  
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence:  
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 aminobutyricum

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Ile Ala Glu Met Lys Ala Leu Ile Asn Ile Ala His Pro Asp Phe Lys									
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Asp Glu Leu Lys									
50									

<210> 3  
 <211> 1289  
 <212> DNA  
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<223> Description of Artificial Sequence: orzf gene from  
C. kluyveri

<400> 3

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aatgcactag ttaaaaataa ggataattat ataggactag aaatagttca catggtagct 180
atgggcaaaag gtgtatatac aaaagagggg atgcaaagac attttagaca taatgctttg 240
ttttagaggc gatctactag agatgcagta aattcaggaa gagcagttta tacaccttgt 300
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accaagccag cagcagaaaag tgctaagcct gtaattgcag aagtgaataa aaacatgcca 480
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cacccattgt tagaattgca gcctcctaaa ttgggagatg tagaaaaagc cataggagaa 600
aactgtgcat ctttaattga agatggagct actcttcagc ttggaatagg tgctatacca 660
gatgcggtac ttttattctt aaagaacaaa aagaatttag gaatacattc tgagatgata 720
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catccaggca aaatagttgt aacattttta atgggaacaa aaaaattata tgattttgta 840
aacaataatc caatggtaga aacttattct gtagattatg taaataatcc actggtaatt 900
atgaaaaatg acaatatggt ttcaataaat tcttgtgttc aagtagactt aatgggacaa 960
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tctagaaatg aagtagatta tgtagttact gaatatggtg ttgctcatct taagggcaaa 1200
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<223> Description of Artificial Sequence:  
oligonucleotide

<400> 4

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14

<210> 5

<211> 45

<212> DNA

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<223> Description of Artificial Sequence:

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<210> 6

<211> 53

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:  
oligonucleotide

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<210> 7

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:  
oligonucleotide

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<210> 8

<211> 26

<212> DNA

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<223> Description of Artificial Sequence:  
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<210> 9

<211> 58

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:  
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<400> 9

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<211> 56

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:  
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<210> 11

<211> 44

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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<210> 12

<211> 34

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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<210> 13

<211> 51  
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 <223> Description of Artificial Sequence: primer  
  
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<211> 52  
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<210> 18  
<211> 33  
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<223> Description of Artificial Sequence: primer

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